REMARKS

Applicant respectfully requests reconsideration and allowance of the subject application.

Claims 9-25, 31-46, and 49-50 are pending.

Claims 9, 14, 23, 31, 33, 42, 49 and 50 are amended.

Claim Rejections, 35 U.S.C. §112, First Paragraph

Claims 9-13 and 31-32 were rejected under 35 U.S.C. § 112, first paragraph. Claims 9 and 31 have been amended to remove the limitation at issue, and therefore withdrawal of the rejection is respectfully requested.

Claim Rejections, 35 U.S.C. §112, Second Paragraph

Claims 9-25, 31-46 and 49-50 were rejected under 35 U.S.C. § 112, second paragraph. The Applicant respectfully disagrees.

Claim 9, as amended, recites in relevant part "determining at least one said candidate string that may be used to replace the input string based on a probability of how likely the at least one said candidate string was incorrectly entered as the input string". Beginning at page 18 of the subject Application, toleration of errors is discussed:

> The language input architecture 131 **tolerates errors made during entry of an input text string and attempts to return the most likely words and sentences given the input string.** The language model 136 helps the typing model 135 to determine which sentence is most reasonable for the input string entered by the user. The two models can be described statistically as the probability that an entered string *s* is a recognizable and valid word *w* from a dictionary, or P(*w*|*s*). *Application, Page 18, Lines 7-12 (emphasis added).*

Thus, for example, "the search engine 134 performs statistical analysis to determine which of the candidates exhibit the highest probability of being intended by the user". *See Application, Page 24, Lines 12-14.* This argument is also applicable to claims 10-25, 31-46 and 49-50. Accordingly, withdrawal of the rejection is respectfully requested.

Claim Rejections 35 U.S.C. §§103(a)

Claims 9-13 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,073,146 to Chen (hereinafter "Chen"). Claims 14-25, 31-46 and 49-50 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Chen in view of U.S. Patent No. 6,246,976 to Mukaigawa et al (hereinafter "Mukaigawa"). These claims have been amended, however, and therefore the amended claims will be referenced when addressing these references.

Chen describes a system having a keyboard with diacritic keys that permit a user to annotate each entered phonetic text syllable with a diacritic that indicates the tone of the syllable. A process executing on the system determines that a syllable has been entered when a diacritic (or delimiter) key is struck. The entered phonetic syllable is then compared to a list of acceptable phonetic syllables and abbreviations. Therefore, Chen relies on the use of diacritic and delimiters to determine syllables for comparison and does not teach or suggest segmenting an input string into probable typing candidates having different partitions, one to another.

Mukaigawa describes identification of a language represented by a character code and its character code system. An occurrence probability table

describes for each character the probability that a character code occurs is prepared for each combination of a language and character code system. An entered character code string is divided for each character, and the occurrence probability table is referred to, to obtain the probability that the character code occurs. Therefore, Mukaigawa relies on individual characters for comparison and does not teach or suggest segmenting an input string into probable typing candidates having different partitions, one to another.

Claim 9 has been amended, and as amended (portions of the amendment appear in bold/italics below) recites a method comprising:

- receiving an input string containing at least first and second languages;
- ***segmenting the input string into probable typing candidates having different partitions, one to another;***
- ***generating one or more candidate strings of language text for each said language using one or more said probable typing candidates***; and
- determining at least one ***said*** candidate string that may be used to replace the input string based on a probability of how likely the ***at least one said*** candidate string was incorrectly entered as the input string.

Support for the amendment may be found throughout the specification and drawings as filed, examples of which may be found at page 16, lines 8-10; page 23, lines 1-5; page 24, lines 6-11; page 32, lines 6-16; and FIGS. 3 and 8. As previously described in relation to the discussion of the references above, neither Chen nor Mukaigawa, alone or in combination, teach or suggest these aspects.

Claims 10-13 depend either directly or indirectly from claim 9 and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 9, are neither shown nor suggested in the references of record, either singly or in combination with one another.

Claim 14 has been amended, and as amended (portions of the amendment appear in bold/italics below) recites a method comprising:

- receiving an input string containing at least first and second languages;
- ***segmenting the input string into probable typing candidates having different partitions, one to another;***
- determining at least one first candidate string ***using at least one said probable typing candidates*** that may be used to replace the input string based on a first probability of how likely the first candidate string was incorrectly entered as the input string in the first language;
- determining at least one second candidate string ***using one or more said probable typing candidates*** that may be used to replace the input string based on a second probability of how likely the second candidate string was incorrectly entered as the input string in the second language;
- using the first candidate string if the first probability is higher than the second probability to derive at least one output string containing the first language; and

- using the second candidate string if the first probability is lower than the second probability to derive at least one output string containing the second language.

Support for the amendment may be found throughout the specification and drawings as filed, examples of which may be found at page 16, lines 8-10; page 23, lines 1-5; page 24, lines 6-11; page 32, lines 6-16; and FIGS. 3 and 8. Neither Chen nor Mukaigawa, alone or in combination, teach or suggest these aspects.

Claims 15-22 depend either directly or indirectly from claim 14 and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 14, are neither shown nor suggested in the references of record, either singly or in combination with one another.

Claim 23 has been amended, and as amended (portions of the amendment appear in bold/italics below) recites a method comprising:

- allowing entry of an input string containing at least first and second languages without switching modes for entry of the first and second languages;
- ***segmenting the input string into probable typing candidates having different partitions, one to another; and***
- determining probable candidate strings***, from the probable typing candidates,*** in at least one of the first and second languages that may be used to replace the input string based on probabilities of how likely each of the candidate strings was incorrectly entered as the input string;

- selectively performing, based on the probabilities, one of (1) converting the input string to an output string in the first language and outputting the output string, or (2) outputting the input string in the second language.

Support for the amendment may be found throughout the specification and drawings as filed, examples of which may be found at page 16, lines 8-10; page 23, lines 1-5; page 24, lines 6-11; page 32, lines 6-16; and FIGS. 3 and 8. As previously described in relation to the discussion of the references above, neither Chen nor Mukaigawa, alone or in combination, teach or suggest these aspects.

Claims 24-25 depend either directly or indirectly from claim 23 and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 23, are neither shown nor suggested in the references of record, either singly or in combination with one another.

Claim 31 has been amended, and as amended (portions of the amendment appear in bold/italics below) recites a language input architecture comprising:

- a typing model to receive an input string, ***segment the input string into probably typing candidates having different partitions*** and determine a typing error probability of how likely at least one candidate string was incorrectly entered as the input string, the typing model being trained in a language; and
- a language model to provide output strings for each said typing candidate, the language model being trained in another language.

Support for the amendment may be found throughout the specification and drawings as filed, examples of which may be found at page 16, lines 8-10; page

23, lines 1-5; page 24, lines 6-11; page 32, lines 6-16; and FIGS. 3 and 8. As previously described in relation to the discussion of the references above, neither Chen nor Mukaigawa, alone or in combination, teach or suggest these aspects.

Claim 32 depends directly from claim 31 and is allowable as depending from an allowable base claim. This claim is also allowable for its own recited features which, in combination with those recited in claim 31, are neither shown nor suggested in the references of record, either singly or in combination with one another.

Claim 33 has been amended, and as amended (portions of the amendment appear in bold/italics below) recites a language input architecture comprising:

- a first typing model to receive an input string, ***segment the input string into probably typing candidates having different partitions*** and determine a first typing error probability of how likely a first candidate string was incorrectly entered as the input string;
- a second typing model to receive the input string, ***segment the input string into probably typing candidates having different partitions*** and determine a second typing error probability of how likely a second candidate string was incorrectly entered as the input string; and
- a search engine to select one of the first and second candidate strings based on the respective first and second typing error probabilities.

Support for the amendment may be found throughout the specification and drawings as filed, examples of which may be found at page 16, lines 8-10; page 23, lines 1-5; page 24, lines 6-11; page 32, lines 6-16; and FIGS. 3 and 8. As

previously described in relation to the discussion of the references above, neither Chen nor Mukaigawa, alone or in combination, teach or suggest these aspects.

Claims 34-41 depend either directly or indirectly from claim 33 and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 33, are neither shown nor suggested in the references of record, either singly or in combination with one another.

Claim 42 has been amended, and as amended (portions of the amendment appear in bold/italics below) recites a language input architecture comprising:

- a user interface to receive an input string written in a combination of phonetic text and non-phonetic text;
- a first typing model to produce probable first typing candidates written in the phonetic text that may be substituted for the input string based on typing error probabilities of how likely each of the first candidate strings was incorrectly entered as the input string, ***wherein each said first candidate string is produced at least in part by segmenting the input string***;
- a second typing model to produce probable second typing candidates written in the non-phonetic text that may be substituted for the input string based on typing error probabilities of how likely each of the second candidate strings was incorrectly entered as the input string, ***wherein each said second candidate string is produced at least in part by segmenting the input string***;

- a language model to provide possible conversion strings written in language text for the first typing candidates written in the phonetic text; and
- a search engine configured to selectively (1) convert the input string to one of the conversion strings so that the phonetic text is replaced with the language text, or (2) output one of the second candidates so that the non-phonetic text is maintained without conversion.

Support for the amendment may be found throughout the specification and drawings as filed, examples of which may be found at page 16, lines 8-10; page 23, lines 1-5; page 24, lines 6-11; page 32, lines 6-16; and FIGS. 3 and 8. As previously described in relation to the discussion of the references above, neither Chen nor Mukaigawa, alone or in combination, teach or suggest these aspects.

Claims 43-46 depend either directly or indirectly from claim 42 and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 42, are neither shown nor suggested in the references of record, either singly or in combination with one another.

Claim 49 has been amended, and as amended (portions of the amendment appear in bold/italics below) recites One or more computer-readable media having computer-executable instructions that, when executed on a processor, direct a computer to:

- allow entry of an input string containing at least first and second languages without switching modes for entry of the first and second languages;
- determine probable candidate strings in at least one of the first and second languages that may be used to replace the input string based on

probabilities of how likely each of the candidate strings was incorrectly entered as the input string, ***wherein the probable candidate strings are generated from probable typing candidates formed by segmenting the input string***;

- selectively perform, based on the probabilities, one of (1) converting the input string to an output string in the first language and outputting the output string, or (2) outputting the input string in the second language.

Support for the amendment may be found throughout the specification and drawings as filed, examples of which may be found at page 16, lines 8-10; page 23, lines 1-5; page 24, lines 6-11; page 32, lines 6-16; and FIGS. 3 and 8. As previously described in relation to the discussion of the references above, neither Chen nor Mukaigawa, alone or in combination, teach or suggest these aspects.

Claim 50 has been amended, and as amended (portions of the amendment appear in bold/italics below) recites One or more computer-readable media having computer-executable instructions that, when executed on a processor, direct a computer to:

- receive an input string containing phonetic text and non-phonetic text;
- ***segment the input string into probable typing candidates having different partitions, one to another;***
- ***generate one or more candidate strings using one or more said probable typing candidates;***
- determine at least one first ***said*** candidate string written in the phonetic text that may be used to replace the input string based on a first probability of how likely the first ***said*** candidate string was incorrectly entered as the input string;

- determine at least one second ***said*** candidate string written in the non-phonetic text that may be used to replace the input string based on a second probability of how likely the second ***said*** candidate string was incorrectly entered as the input string in the second language;
- associate possible conversion strings written in language text for the first typing candidates written in the phonetic text;
- convert the input string to the conversion string associated with the first ***said*** candidate string when comparison of the first probability with the second probability indicates it is more likely that the first ***said*** candidate string was incorrectly entered as the input string so that the phonetic text is converted to the language text; and
- output the second ***said*** candidate string when comparison of the first probability with the second probability indicates it is more likely that the second ***said*** candidate string was incorrectly entered as the input string in the second language so that the non-phonetic text remains unconverted.

Support for the amendment may be found throughout the specification and drawings as filed, examples of which may be found at page 16, lines 8-10; page 23, lines 1-5; page 24, lines 6-11; page 32, lines 6-16; and FIGS. 3 and 8. As previously described in relation to the discussion of the references above, neither Chen nor Mukaigawa, alone or in combination, teach or suggest these aspects.

Conclusion

Claims 9-25, 31-46, and 49-50 are in condition for allowance. Applicant respectfully requests reconsideration and prompt issuance of the subject application.

Respectfully Submitted,

Date: 10/3/5

By: _____
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